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EXAMINER MEJIA, ANTHONY				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/725,298

Applicant(s)

POPESCU ET AL.

Examiner

ANTHONY MEJIA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-10 and 21-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-10 and 21-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 26 January 2009 has been entered.

### ***Response to Amendment***

2. Claims 1-5, 7-10, and 21-28 are pending in the instant application. Claims 1-2 are currently amended. Claims 6 and 11-20 have been canceled. Claims 21-28 have been added.

### ***Response to Arguments***

3. Applicant's arguments at pages 6-11 of remarks dated 26 January 2009 regarding the rejection of Claims 1-5, 7-10, and 21-28 under 35 U.S.C. 103 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejection are made in view of the newly discovered references (see Office Action below).

***Claim Objections***

4. Claim 25 is objected to because of the following informalities: the Claim recites in line 1 of the claim the phrase: "the forming..." which is vague and/or ambiguous in that it raises uncertainty as to if the applicant is referring to the step of: "forming a single feature vector based on the..." Examiner suggests for the Applicant in the next response to the Office Action to further clarify and/or amend the claim by replacing the phrase "the forming.." with the phrase "wherein the forming step..." Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grimm et al. (US 5,828,843) (referred herein after as Grimm) in further view of George et al. (US 6,944,645) (referred herein after as George) and in further view of Kamei et al. ("Community Organizer: Supporting the Formation of Network Communities through Spatial Representation") (referred herein after as Kamei).

Regarding Claim 1, Grimm teaches a method comprising the steps of:  
obtaining a user's communication interest (e.g., user's clients are selected into matched sets based on obtained attributes of the client users, application,

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and the attributes of the servers are compared through a vector of different network properties, col. 1, lines 60-64, col.4 lines 38-48, 63-68, and col.8, lines 41-45).

obtaining network attributes (e.g., communication attributes, col.3, lines 33-37);

obtaining application attributes (e.g., match making system takes into account users preferences and attributes, col. 2, lines 5-6, and as discussed in col.3, lines 7-8).

Although Grimm teaches obtaining user communication interest as discussed above, Grimm does not explicitly teach wherein the communication interest is represented by at least one of: a user request for a content update or a user subscription to a specific data item or to a set of proximal data sources.

However, George in a similar field of discloses a method and system for customizing electronic communications including wherein a communication interest of a user is represented by a user request for content update (changing a customer's requested mailing date because new information has been loaded into the content database, col.5, lines 3-8) or user subscription (subscription) to a specific data item (newsletter), or to a set of proximal data sources (based on the demographic and public information obtained, one of ordinary skill in the art at the time the invention was made, would appreciate that a proximal data source may then be located based on this obtained data), (col.3, lines 3-9, 15-31, 38-47, and col.4, lines 57-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of George in Grimm in order to properly measure the similarities of users' communications interests. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Grimm and George to enrich the interaction between the participants (e.g., vendors/users) of the system (George: col.5, lines 16-19).

In further, the combined teachings of Grimm and George do not explicitly teach the steps of:

forming a single feature vector based on the communication interest, network attributes, and application attributes,

wherein the single feature vector is used to cluster the user with one or more other users based on similarly-formed single feature vectors associated with one or more other users.

However, Kamei in a similar field of endeavor Kamei in a similar field of endeavor discloses a Community Organizer system designed to support network communities by providing spatial representations of community members and communication exchanged among these members including the steps of:

forming a single feature vector for a community of different interests for different users. (abstract, Introduction 1, 4.1 Retrieving information based on user's interests),

wherein the single feature vector is used to cluster the user with one or more other users based on similarly-formed single feature vectors associated

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with one or more other users (abstract, Introduction 1, 4.1 Retrieving information based on user's interests).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Kamei in the combined teachings of Grimm and George to apply the obtained communication interests, network attributes, and application attributes from the combined teachings of Grimm and George in the feature vector of the teachings of Kamei in order to find data from other users that have similar feature vectors in a multi-dimensional space. One of ordinary skill in the art at the time the invention was made would have been motivated to combine all of the teachings of Grimm/George/Kamei to help users find other users who share similar interests as them on a given network.

7. Claims 2, 7-9, 22-24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grimm in further view of George in further view of Kamei and in further view of Modiri et al. (US 6,192,401) (referred herein after as Modiri).

Regarding Claim 2, Grimm teaches a method comprising the steps of:  
obtaining a user's communication interest (e.g., user's clients are selected into matched sets based on obtained attributes of the client users, application, and the attributes of the servers are compared through a vector of different network properties, col. 1, lines 60-64, col.4 lines 38-48, 63-68, and col.8, lines 41-45).

obtaining network attributes (e.g., communication attributes, col.3, lines

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33-37);

obtaining application attributes (e.g., match making system takes into account users preferences and attributes, col. 2, lines 5-6, and as discussed in col.3, lines 7-8).

Although Grimm teaches obtaining user communication interest as discussed above, Grimm does not explicitly teach wherein the communication interest is represented by at least one of: a user request for a content update or a user subscription to a specific data item or to a set of proximal data sources.

However, George in a similar field of discloses a method and system for customizing electronic communications including wherein a communication interest of a user is represented by a user request for content update (changing a customer's requested mailing date because new information has been loaded into the content database, col.5, lines 3-8) or user subscription (subscription) to a specific data item (newsletter), or to a set of proximal data sources (based on the demographic and public information obtained, one of ordinary skill in the art at the time the invention was made, would appreciate that a proximal data source may then be located based on this obtained data), (col.3, lines 3-9, 15-31, 38-47, and col.4, lines 57-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of George in Grimm in order to properly measure the similarities of users' communications interests. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Grimm and George to enrich the



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interaction between the participants (e.g., vendors/users) of the system (George: col.5, lines 16-19).

The combined teachings of Grimm and George do not explicitly teach the steps of:

forming a plurality of feature vectors, one for each of the plurality of nodes, where each single one of the plurality of feature vectors is based on the user's communication interest, network attributes, and application attributes.

However, Kamei in a similar field of endeavor Kamei in a similar field of endeavor discloses a Community Organizer system designed to support network communities by providing spatial representations of community members and communication exchanged among these members including the steps of:

forming a plurality of feature vectors, one for each of the plurality of nodes, where each single one of the plurality of feature vectors is based on a community of different interests for different users (abstract, Introduction 1, 4.1 Retrieving information based on user's interests).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Kamei in the combined teachings of Grimm and George to apply the obtained communication interests, network attributes, and application attributes from the combined teachings of Grimm and George in the feature vector of the teachings of Kamei in order to find data from other users that have similar feature vectors in a multi-dimensional space. One of ordinary skill in the art at the time the invention was made would have been motivated to combine all of the teachings of Grimm/George/Kamei to help users

find other users who share similar interests as them on a given network.

In further, the combined teachings of Grimm/George/Kamei do not explicitly teach the step of:

clustering the network nodes based on the plurality of feature vectors.

However, Modiri in a similar field of endeavor discloses a system and method for determining cluster membership in a heterogeneous distributed system, including the step of:

clustering (e.g., configuring) the network nodes based on the plurality of feature vectors (col.2, lines 25-29 and 57-59, col.7, lines 8, lines 1-15)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Modiri in Grimm/George/Kamei in order to configure the nodes to a particular desired group or membership. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Grimm/George/Kamei to help satisfy the desirability of having an optimized way in determining the membership for the nodes in the cluster (Modiri: col.2, lines 13-15).

Regarding Claim 7, the combined teachings of Grimm/George/Kamei/Modiri teach the method of claim 2 as discussed above. Grimm further teaches obtaining application attributes (e.g., match making system takes into account users preferences and attributes, col. 2, lines 5-6, and as discussed in col.3, lines 7-8) includes obtaining information regarding collaborative usage of the application (e.g., the matchmaker will choose a server

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if multiple servers are available and if the network application requires it. The moderator inherits the class attributes of the application when a match offer is created, col.3, lines 49-57).

Regarding Claim 8, the combined teachings of Grimm/George/Kamei/Modiri teach the method of claim 2 as discussed above. Grimm further teaches obtaining network path loss information (e.g., packet-loss rate, col.8, lines 65-66), and such that clustering is based on the path loss information (e.g., match maker will consider network path loss (packet-loss rate) as part of matching up clients, col.9, lines. 12-16).

Regarding Claim 9, the combined teachings of Grimm/George/Kamei/Modiri teach the method of claim 2 as discussed above, wherein the method further includes the step such that clustering (Grimm: e.g., match making bandwidth attributes with all the current clients, col.7, lines 49-51) is based on bandwidth constraints (Grimm: e.g., requirements (bandwidth)) necessary for data, col. 7, lines 36-39).

Regarding Claim 22, this method claim comprises limitation(s) substantially the same, as those discussed on claim 7 above, same rationale of rejection is applicable.

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Regarding Claim 23, this method claim comprises limitation(s) substantially the same, as those discussed on claim 8 above, same rationale of rejection is applicable.

Regarding Claim 24, this method claim comprises limitation(s) substantially the same, as those discussed on claim 9 above, same rationale of rejection is applicable.

Regarding Claim 26, Grimm teaches an executable program for clustering a multi-type vector space (col.10, lines 31-39), where the program performs the steps of:

obtaining a user's communication interest (e.g., user's clients are selected into matched sets based on obtained attributes of the client users, application, and the attributes of the servers are compared through a vector of different network properties, col. 1, lines 60-64, col.4 lines 38-48, 63-68, and col.8, lines 41-45).

obtaining network attributes (e.g., communication attributes, col.3, lines 33-37);

obtaining application attributes (e.g., match making system takes into account users preferences and attributes, col. 2, lines 5-6, and as discussed in col.3, lines 7-8).

Although Grimm teaches obtaining user communication interest as discussed above, Grimm does not explicitly teach wherein the communication

interest is represented by at least one of: a user request for a content update *or* a user subscription to a specific data item *or* to a set of proximal data sources.

However, George in a similar field of discloses a method and system for customizing electronic communications including wherein a communication interest of a user is represented by a user request for content update (changing a customer's requested mailing date because new information has been loaded into the content database, col.5, lines 3-8) or user subscription (subscription) to a specific data item (newsletter), or to a set of proximal data sources (based on the demographic and public information obtained, one of ordinary skill in the art at the time the invention was made, would appreciate that a proximal data source may then be located based on this obtained data), (col.3, lines 3-9, 15-31, 38-47, and col.4, lines 57-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of George in Grimm in order to properly measure the similarities of users' communications interests. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Grimm and George to enrich the interaction between the participants (e.g., vendors/users) of the system (George: col.5, lines 16-19).

The combined teachings of Grimm and George do not explicitly teach the steps of:

forming a plurality of feature vectors, one for each of the plurality of nodes,

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where each single one of the plurality of feature vectors is based on the user's communication interest, network attributes, and application attributes.

However, Kamei in a similar field of endeavor Kamei in a similar field of endeavor discloses a Community Organizer system designed to support network communities by providing spatial representations of community members and communication exchanged among these members including the steps of:

forming a plurality of feature vectors, one for each of the plurality of nodes, where each single one of the plurality of feature vectors is based on a community of different interests for different users (abstract, Introduction 1, 4.1 Retrieving information based on user's interests).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Kamei in the combined teachings of Grimm and George to apply the obtained communication interests, network attributes, and application attributes from the combined teachings of Grimm and George in the feature vector of the teachings of Kamei in order to find data from other users that have similar feature vectors in a multi-dimensional space. One of ordinary skill in the art at the time the invention was made would have been motivated to combine all of the teachings of Grimm/George/Kamei to help users find other users who share similar interests as them on a given network.

In further, the combined teachings of Grimm/George/Kamei do not explicitly teach the steps of:

a computer readable storage medium;

clustering the network nodes based on the plurality of feature vectors.

However, Modiri in a similar field of endeavor discloses a system and method for determining cluster membership in a heterogeneous distributed system, including the step of:

a computer readable storage medium (col.6, lines 8-13, and claim 38);  
clustering (e.g., configuring) the network nodes based on the plurality of feature vectors (col.2, lines 25-29 and 57-59, col.7, lines 8, lines 1-15)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Modiri in Grimm/George/Kamei in order to configure the nodes to a particular desired group or membership. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Grimm/George/Kamei to help satisfy the desirability of having an optimized way in determining the membership for the nodes in the cluster (Modiri: col.2, lines 13-15).

8. Claims 3-4, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grimm in further view of George in further view of Kamei in further view of Modiri, and yet in further view of Johnson (US. 6,078,946) (referred herein after as Johnson)

Regarding Claim 3, the combined teachings of Grimm/George/Kamei/Modiri teach the method of claim 2 as discussed above. The combined teachings of Grimm/George/Kamei/Modiri do not explicitly teach clustering that is performed by a fusion method in which one or more plurality of nodes are clustered in each attribute space on subspace classifiers.

However Johnson, in a similar field of endeavor, teaches a system and method for management of connection oriented networks including the step of:

clustering that is performed by a fusion method (where a fusion method is interpreted as being a subspace classification) in which one or more of said pluralities of nodes are clustered in each attribute space on subspace classifiers (col.10, lines 14-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Johnson in Grimm/George/Kamei/Modiri in order to consider additional sub-attributes. One of the ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of both Johnson and Grimm/George/Kamei/Modiri to produce effective mutually dependent outcomes of the attributes used for the communication in the network.

Regarding Claim 4, the combined teachings of Grimm/George/Kamei/Modiri teach the method of claim 2 as discussed above. The combined teachings of Grimm/George/Kamei/Modiri do not explicitly teach wherein the method further includes the step wherein one of more plurality of said plurality of nodes clustering is performed by a nested method in which network nodes are initially clustered based on a sub-set of attributes and then re-clustered by iteratively considering additional attributes.

However Johnson, in a similar field of endeavor, teaches a system and method for management of connection oriented networks including the step of:

clustering is performed by a nested method in which network nodes are



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initially clustered based on a sub-set of attributes and then re-clustered by iteratively considering additional attributes (Johnson: e.g., the sub-classes are already nested within classes, but the comparison of the sub-classes will be considered as an aspect of determination of the best classes, which would include their attributes, col.10, lines 20-24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Johnson in the teachings of Grimm/George/Kamei/Modiri in order to implement additional attributes need for clustering. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Johnson/ Grimm/George/Kamei/Modiri to help optimize the interaction between the participants of the system by implementing the additional clustering within the cluster to determine the best case for the participants of the system.

Regarding Claim 27, this computer readable storage medium claim comprises limitation(s) substantially the same, as those discussed on claim 3 above, same rationale of rejection is applicable.

Regarding Claim 28, this computer readable storage medium claim comprises limitation(s) substantially the same, as those discussed on claim 4 above, same rationale of rejection is applicable.

9. Claims 5, and 21 are rejected under 35 U.S.C. 103(a) as being

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unpatentable over Grimm in further view of George in further view of Kamei in further view of Modiri, and yet in further view of Solotorevsky (US 2005/0010571) (referred herein after as Solotorevsky)

Regarding Claim 5, the combined teachings of Grimm/George/Kamei/Modiri teach the method of claim 2 as discussed above. The combined teachings of Grimm/George/Kamei/Modiri do not explicitly teach wherein the method comprises the steps of forming network delay maps and on the forward capacity maps from the obtained network attributes, and such that clustering is based on the formed network delay maps and on forward capacity maps.

However, Solotorevsky, in a similar field of endeavor, such as a system and method for generating policies for a communication network, discloses wherein further comprising forming forward capacity maps (e.g., maps calculated requirements such as forward capacity (e.g., bandwidth capacity) in a graphical representation of the network, par [0056], as demonstrated in fig.3 and network delay maps (e.g., delay, if is a network requirement that is calculated, may also be demonstrated in a graphical representation of the network as discussed in par [0060]), such that clustering is based on the formed network delay maps and on forward capacity maps (e.g., for each expected network requirement, each expected network requirement may be mapped to the elements of the symbolic network representation and its probability to demand the type of use it needs may be derived from (e.g., delay and bandwidth capacity), par [0060]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Solotorevsky in Grimm/George/Kamei/Modiri to be able to have a symbolic representation of the constraints on the network. One of the ordinary skill in the art at the time the invention was made, would have been motivated to combine the teachings of Grimm/George/Kamei/Modiri and Solotorevsky to be able to visually analyze a network map based on the specific network attributes and constraints that were obtained.

Regarding Claim 21, this method claim comprises limitation(s) substantially the same, as those discussed on claim 5 above, same rationale of rejection is applicable.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grimm in further view of George in further view of Kamei in further view of Modiri, and yet in further view of Tang et al. (US 2005/0076137) (referred herein after as Tang)

Regarding Claim 10, the combined teachings of Grimm/George/Kamei/Modiri teach the method of claim 2 as described above. The combined teachings of Grimm/George/Kamei/Modiri do not explicitly teach wherein the method further comprises the step of clustering is based on weighted distance function modeled from normalized attribute subspace metrics.

However, Tang, in a similar field of endeavor, teaches a method of utilizing proximity information in an overlay network, including wherein the

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method further comprises the step of:

clustering is based on weighted distance function (e.g., RTT) modeled from normalized attribute subspace metrics (par [0058]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Tang in Grimm/George/Kamei/Modiri, in order to be able to be able to consider distance measurements. One of ordinary skill in the art at the time the invention was made, would have been motivated to combine the teachings of Grimm/George/Kamei/Modiri and Tang, to be able to determine the distance of the nodes within a network overlay.

11. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grimm in further view of George in further view of Kamei and in further view of Posey Jr. (US 7,184,444) (referred herein after as Posey).

Regarding Claim 25, the combined teachings of Grimm/George/Kamei teach the method of Claim 1 as described above. The combined teachings of Grimm/George/Kamei do not explicitly teach the step wherein the forming comprises basing the single feature vector on one or more quality of service requirements.

However, Posey in a similar field of endeavor discloses a system and method for packet classification including the step of forming a feature vector further comprises basing the single feature vector on one or more quality of

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service requirements (e.g., the classification index module creates a quality of service parameter vector, col.7, lines 15-29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Posey in the combined teachings of Grimm/George/Kamei in order to satisfy Quality of Service requirements mandated by the user nodes. One of ordinary skill in the art at the time the invention was made would have been motivated to combine all of the teachings of Grimm/George/Kamei/Posey to help minimize system resource requirements such as network bandwidth.

### ***Conclusion***

Examiner has cited particular paragraphs, columns, and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY MEJIA whose telephone number is (571)270-3630. The examiner can normally be reached on Mon-Thur 9:30AM-8:00PM EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A.M./

Patent Examiner

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/Salad Abdullahi/

Primary Examiner, Art Unit 2457